CraftStrom Technical Assistance Request

Request 1 – Smart Meter Data

Our solution is based not only on hardware development, but more crucially on the software component. While customers are able to program our smart battery using our App, we want to offer a fully automated system that utilizes an AI, which uses individual user's production and storage data, combines it with usage data, as well as power contract prices and optimizes the household's energy bill. While we will work with power meter IoT devices, the most accurate way to measure power usage is at the meter. Unfortunately, there are a multitude of smart meters, with different data formats and no one perfect way to obtain that data directly from the meter. For that purpose, we would like to cooperate with

- Utilities, as they are the ones pushing smart meters
- ConnectDER, as they have a smart meter solution with solar power hardware integration.

Request 2 – Iot Metering And Control

Smart meters will provide us with accurate, daily total power usage data. However, in cases of high load appliances, it will be beneficial to understand required loads for certain appliances and usage schedules from the user, in order to offer better services.
Hence, we would appreciate contact to

- IoT device OEMs for
  - Small, outlet-metering devices
  - Smart appliances, such as Wifi-enabled washing machines, ovens, etc.
  - Adoption rates of IoT devices, to better understand in which fields users are most likely to adapt smart devices and power regulation.

Request 3 – Software Engineers

Currently, due to a lack of funds, our software development team is limited and only one, Drazen Lucanin, has experience with AI. We can advance quicker along our software timeline, if we can find more help on the coding side for our AI. We would appreciate any help in finding funding and)coders. It seems that the Duke University Energy Initiative might be of help here, but we are open to help from any institution or industry partner.

Request 4 – Regulatory Information and Help

Our technology is currently not regulated on a federal level and regulatory issues are always present. We are in contact with Frauenhofer Institute, specifically Mr. Christian Hoepfner of the Center for Sustainable Energy Systems. However, sadly, they are closing their operations and cannot provide more help. We would like to work with various institutions, such as

- National Laboratories
- Power companies and
- Grid owners

To better understand what the take on current regulations are on a State level. Currently, our products typically fall below the threshold of requiring full permitting, as fully sized solar plants do need. However, we would to work on certifying our products to a point, where there can be no doubt as to their safety and technical acceptance by all parties involved.

Request 5 - Logistics

Logistics of batteries in our size is a challenge. Typically, it requires hazardous goods transportation, which is very costly. Gaining access to a reputable logistics company with an established network might help us reduce those prices and devise a solution that will allow for the safe transportation of larger batteries. It has come to our attention that DHL is cooperating with one startup to provide safe logistics.

Request 6 – Production in the USA

We have not been able to find a manufacturer of semi flexible solar panels that could aid us in the USA, hence we are still manufacturing in China. Production there is neither cost effective, nor are the long delivery times working to our advantage. However, setting up a manufacturing workshop in the US is simple enough, as we understand the basic process and the machines used. However, we desperately need help in formalizing the production process and introducing automation for quality assurance in part of the process, as the entire process is still done by hand.

Request 7 – Battery Cell Recycling Process

An essential part of providing renewable tech is also ensuring to customers that their efforts are not in vein, by causing more pollution. It is in our interest, from a personal and professional viewpoint, that we can offer customers to exchange battery cells with recycled ones and still be profitable. Any help in understanding how the recycling process works, the costs and recycling efficiency rates would already be of help.